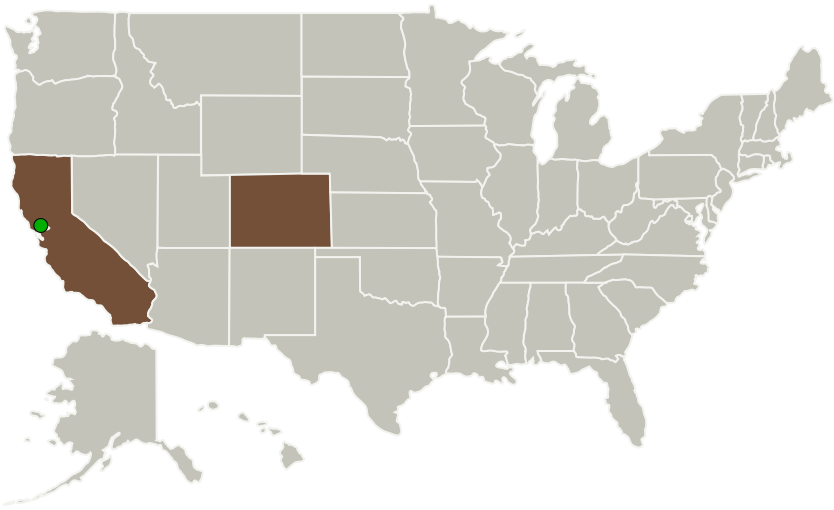
Enabling Technology for Small Satellite Launch, Phase II

Completed Technology Project (2010 - 2011)

Project Introduction

Access to space for Small Satellites is enabled by the use of excess launch capacity on existing launch vehicles. A range of sizes, form factors and masses of small sats need to be accommodated. An integration process that minimizes programmatic/technical risk to the primary, allows "late flow" integration and predictable cost/schedule for the secondary enables regular and cost-effective access. The integration process proceeds smoothly when the right adapter accommodates the secondary in a seamless way. Design_Net, with our commercialization partner SpaceAvailable Inc. has designed a family of adapters that meet these criteria and one has been selected by NASA to complete development for targeted NASA rideshare opportunities. We are also currently working with United Launch Alliance (ULA) for a broader class of rideshare accommodations, and development of interfaces that allow late access on Evolved Expendable Launch Vehicles (EELV)s. Design_Net will continue, via this SBIR Phase 2, to develop the selected adapter to a structurally tested engineering model. This adapter can accommodate everything from 6u and 12u carriers to full up "ORS class" (800lb) small satellites and is applicable to Minotaur IV, Falcon 9 and Taurus 2.

Primary U.S. Work Locations and Key Partners



Enabling Technology for Small Satellite Launch, Phase II

Table of Contents

Small Business Innovation Research/Small Business Tech Transfer

Enabling Technology for Small Satellite Launch, Phase II

Completed Technology Project (2010 - 2011)

Organizations Performing Work	Role	Type	Location
Design_Net Engineering LLC	Lead Organization	Industry	Golden, Colorado
Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

Primary U.S. Work Locations	
California	Colorado

Project Transitions

January 2010: Project Start

September 2011: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/138977)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Design_Net Engineering LLC

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

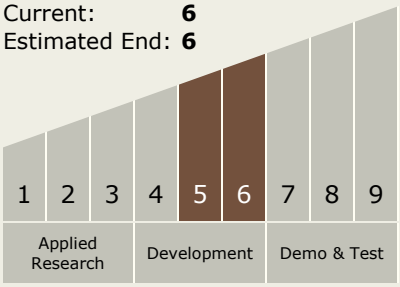
Carlos Torrez

Principal Investigator:

Gerry Murphy

Technology Maturity (TRL)

Start: **5**
Current: **6**
Estimated End: **6**



Enabling Technology for Small Satellite Launch, Phase II

Completed Technology Project (2010 - 2011)

Technology Areas

Primary:

- TX09 Entry, Descent, and Landing
  - TX09.4 Vehicle Systems
    - TX09.4.2 Separation Systems

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System